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Application No. 10/706,738
Reply to Office Action of June 26, 2009

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Docket No.: TSR-10002/38

AMENDMENTS TO THE CLAIMS

1-7 (Canceled)

8. (Currently amended) A method of nucleic acid delivery to target cells of a subject comprising the step of administering a conjugating agent-nucleic acid complex where the conjugating agent comprises A—R₁—Q—Z; where A—R₁ is a cholesterol derivative selected from the group consisting of cholestanol, coprostanol, glycocholic acid, chenodeoxycholic acid, desoxycholic acid, glycochenodeoxycholic acid, taurocholic acid, and taurochenodeoxycholic acid; where Q is a sulfur, nitrogen, or oxygen; and Z is a six amino acid chain of arginine polyionic peptide.

9. (Previously presented) The method of claim 8, wherein said administration is oral.

10. (Previously presented) The method of claim 8, wherein nucleic acid of said complex is expressed as a protein in said target cells.

11. (Previously presented) The method of claim 10 wherein said protein is secreted from said target cells.

12. (Previously presented) The method of claim 10 wherein said protein is of a class selected from the group consisting of: proteases, pituitary hormones, protease inhibitors, growth

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factors, cytokines, somatomedians, chemokines, immunoglobulins, gonadotrophins, interleukins, chemotactins, interferons, and lipid-binding proteins.

13. (Previously presented) The method of claim 8 wherein nucleic acid of said complex is selected from the group consisting of: DNA, RNA, mRNA, miRNA, ribozyme, and antisense sequences.

14. (Previously presented) The method of claim 8 wherein said complex is administered as part of a pharmaceutical composition.

15. (Previously presented) The method of claim 14 wherein said pharmaceutical composition comprises an active therapeutic compound.

16. (Previously presented) The method of claim 15 wherein said therapeutic compound is selected from the group consisting of: an antibiotic, a gamma or beta radiation emitting species, an anti-inflammatory, an antitumoral, an antiviral, an antibody, a hormone, an enzyme, antigenic peptide and antigenic protein.

17-18 (Canceled)

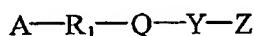
19. (Previously presented) The method of claim 8, wherein said target cells are gastrointestinal cells.

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20. (Currently amended) A nucleic acid delivery composition comprising a conjugating agent-nucleic acid complex having the formula:



where $A-R_1$ is a cholesterol derivative selected from the group consisting of cholestanol, coprostanol, glycocholic acid, chenodeoxycholic acid, desoxycholic acid, glycochenodeoxycholic acid, taurocholic acid, and taurochenodeoxycholic acid; where Q is sulfur, or oxygen; where Y is a linker peptide ~~having a negative, neutral, or positive charge~~ consisting of glycine, asparagine, serine, threonine, and alanine residues; and where Z is a six amino acid chain of arginine polyionic peptide.

21. (Canceled)

22. (Previously presented) The composition of claim 20 wherein said cholesterol derivative is a deoxycholic acid.

23. (Canceled)

24. (Previously presented) The composition of claim 20 wherein said Q is oxygen.

25-29 (Canceled)

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30. (Previously presented) A commercial package comprising a composition of A-R₁-Q-Z according to claim 8 as an active ingredient together with instructions for the use thereof as a nucleic acid delivery agent to a subject.